1.a. Full Title: Quantile Regression Models for Current Status Data

b. Abbreviated Title: QR for current status data

2. Writing Group:
   Writing group members: Fang-Shu Ou, Donglin Zeng, and Jianwen Cai

I, the first author, confirm that all the coauthors have given their approval for this manuscript proposal. **FO [please confirm with your initials electronically or in writing]**

First author: **Fang-Shu Ou**
Address: 4115 McGavran-Greenberg Hl, 135 Dauer Drive, Campus Box 7420, Chapel Hill 27599
   Phone: 919-966-7250   Fax: 
   E-mail: fou@unc.edu

**ARIC author** to be contacted if there are questions about the manuscript and the first author does not respond or cannot be located (this must be an ARIC investigator).
   Name: **David Couper**
   Address: Collaborative Studies Coordinating Center, 137 E. Franklin Street, Suite 203, Chapel Hill, NC 27514-4145
   Phone: (919) 962-3229   Fax: 
   E-mail: david_couper@unc.edu


4. Rationale:
   Current status data arise frequently in demography, epidemiology, and econometrics where the exact failure time cannot be determined but is known only to have occurred before or after a random observation time. We propose a quantile regression model to
analyze current status data because it relaxes the requirements on the error term and the coefficients are interpretable as direct regression effects on the failure time. We would like to utilize ARIC data to demonstrate the usefulness of the method.

5. Main Hypothesis/Study Questions:
Many risk factors have been identified to be associated with disease onset. We are interested in quantifying the association between risk factors and time to onset of certain disease at different quantiles of time to onset. It will provide a more complete picture of whether the association of a risk factor is constant across different quantiles. If the association is different across different quantiles, we are interested in knowing how the association changes across different quantiles.

6. Design and analysis (study design, inclusion/exclusion, outcome and other variables of interest with specific reference to the time of their collection, summary of data analysis, and any anticipated methodologic limitations or challenges if present).

Inclusion: All ARIC participants.
Exclusions: Subjects without first follow-up visit (Exam 2).

Outcome [variable name in bracket]:
Diabetes [DIABTS02, DIABTS03, DIABTS22, DIABTS23]
Hypertension [HYPERT04, HYPERT05, HYPERT06, HYPERT24, HYPERT25, HYPERT26]
MI [MDDXMI02, HXOFMI02, MDDXMI21, HXOFMI21]
Hyperlipidemia
Hypertriglyceridemia [TGLEFH01, TGLEFH21]

Baseline demographic variables [variable name in bracket]:
Age [V1AGE01, V2AGE22]
Gender [GENDER]
Race [RACEGRP]
BMI [BMI01, BMI21]
Family history of diabetes [MOMHISTORYDIA, DADHISTORYDIA]
Family history of hypertension []
Total Cholesterol [LIPA01, LIPB01A]
HDL [LIPD03A, HDL221, HDL01, HDL201, HDL301]
LDL [LDL01, LDL22]
Triglyceride [LIPA02, LIPA02A]
Systolic blood pressure [SBPA21, SBPB21]
Diastolic blood pressure [SBPA22, SBPB22]
Current smoker [CURSMK21]
Percent calories from total fat [P.TFAT]
Percent calories from animal fat [P.AFAT]
Physical Activities [WORK_I02, WORK_I03, SPRT_I02, LISR_I01]
Medication [HYPTMDO1, HYPTMDCODE01, CHOLMDCODE01, CHOLMDCODE21, HYPTMDCODE21]

7.a. Will the data be used for non-CVD analysis in this manuscript?  
   ___X___ Yes  
   ____ No

   b. If Yes, is the author aware that the file ICTDER03 must be used to exclude persons with a value RES_OTH = “CVD Research” for non-DNA analysis, and for DNA analysis RES_DNA = “CVD Research” would be used?  
      ___X___ Yes  
      ____ No
   (This file ICTDER has been distributed to ARIC PIs, and contains the responses to consent updates related to stored sample use for research.)

8.a. Will the DNA data be used in this manuscript?  
     ____ Yes  
     ___X___ No

8.b. If yes, is the author aware that either DNA data distributed by the Coordinating Center must be used, or the file ICTDER03 must be used to exclude those with value RES_DNA = “No use/storage DNA”?  
     ____ Yes  
     ____ No

9. The lead author of this manuscript proposal has reviewed the list of existing ARIC Study manuscript proposals and has found no overlap between this proposal and previously approved manuscript proposals either published or still in active status. ARIC Investigators have access to the publications lists under the Study Members Area of the web site at: http://www.csc.unc.edu/ARIC/search.php
     ___X___ Yes  
     ____ No

10. What are the most related manuscript proposals in ARIC (authors are encouraged to contact lead authors of these proposals for comments on the new proposal or collaboration)?


11.a. Is this manuscript proposal associated with any ARIC ancillary studies or use any ancillary study data?  
      ____ Yes  
      ___X___ No

11.b. If yes, is the proposal  
      ___ A. primarily the result of an ancillary study (list number* __________)
B. primarily based on ARIC data with ancillary data playing a minor role (usually control variables; list number(s)* __________  __________

*ancillary studies are listed by number at http://www.cscc.unc.edu/aric/forms/

12a. Manuscript preparation is expected to be completed in one to three years. If a manuscript is not submitted for ARIC review at the end of the 3-years from the date of the approval, the manuscript proposal will expire.

12b. The NIH instituted a Public Access Policy in April, 2008 which ensures that the public has access to the published results of NIH funded research. It is your responsibility to upload manuscripts to PUBMED Central whenever the journal does not and be in compliance with this policy. Four files about the public access policy from http://publicaccess.nih.gov/ are posted in http://www.cscc.unc.edu/aric/index.php, under Publications, Policies & Forms. http://publicaccess.nih.gov/submit_process_journals.htm shows you which journals automatically upload articles to Pubmed central.